

CLAIMS

What is claimed is:

1. A disc centering device comprising:
a base plate;
a chuck which is installed on the base plate;
a hub unit which is detachably engaged to the chuck and receives discs to be stacked;
disc pushers which are slidably provided outside of the hub unit and include
corresponding pressure members which push circumferences of the discs and center the discs;
and
a driving unit which drives the disc pushers simultaneously.
2. The disc centering device according to claim 1, wherein the chuck includes a
collet which grabs or relieves the hub unit according to whether a compressed air is provided to
the chuck.
3. The disc centering device according to claim 1, wherein the hub unit comprises:
a hub body which is detachably engaged to the chuck and receives the discs; and
a hub cap which moves up or down to press the discs stacked with respect to the hub
body.
4. The disc centering device according to claim 3, wherein the hub cap moves up or
down according to whether a compressed air is provided to the hub unit.
5. The disc centering device according to claim 1, wherein the disc pushers are
provided in a radial direction relative to the hub unit.
6. The disc centering device according to claim 5, wherein the disc pushers include
first, second and third disc pushers which are provided at intervals of 120 degrees with respect
to the hub unit.
7. The disc centering device according to claim 1, wherein the driving unit includes:
a motor;
a belt pulley which is connected to the motor and the disc pushers; and

a link which is linearly moved by the belt pulley and simultaneously moves the disc pushers back or forth.

8. The disc centering device according to claim 1, wherein the driving unit includes cylindrical actuators which drive the corresponding disc pushers.

9. The disc centering device according to claim 1, wherein the pressure members respectively include plate springs which simultaneously pressurize the circumferences of the discs having different diameters.

10. The disc centering device according to claim 1, further comprising a linear guide unit which mounts the disc pushers, wherein the linear guide unit slides the disc pushers according to the driving unit.

11. The disc centering device according to claim 1, wherein the pressure members respectively include one or more elastic members which simultaneously pressurize the circumferences of the discs having different diameters, so as to center the discs.

12. The disc centering device according to claim 2, wherein the chuck further includes:
a chuck body which defines the chuck;
an air chamber which is provided in the chuck body;
an air port which supplies the compressed air to the air chamber; and
a piston which is provided in the chuck body and moves up or down according to whether the compressed air is provided to the air chamber, wherein the collet grabs or relieve the hub unit according to an up or down movement of the piston.

13. The disc centering device according to claim 3, wherein the hub unit further comprises:
an air chamber which is provided in the hub body to receive a compressed air; and
a piston which is provided in the hub body and moves up or down according to whether the compressed air is provided to the air chamber, wherein the hub cap is provided at an upper portion of the hub body, and pushes or releases the disc with respect to the hub body according to an up or down movement of the piston.

14. The disc centering device according to claim 9, wherein each of the pressure members further includes fixing units which fix side ends of the corresponding plate spring.

15. The disc centering device according to claim 1, wherein:
the disc pushers move forward to contact and center the discs, and
the hub unit includes a hub cap which clamps the centered discs.

16. The disc centering device according to claim 1, wherein the disc pushers simultaneously pressurize the circumferences of the discs so as to center the discs.

17. A disc centering device comprising:
a base plate;
a chuck which is installed on the base plate;
a hub unit which is detachably engaged to the chuck and receives discs to be stacked;
a disc centering unit having pushing members which are slidably provided outside of the hub unit and simultaneously pressurize circumferences of the discs to center the discs; and
a driving unit which drives the disc centering unit.

18. The disc centering device according to claim 17, wherein the pushing members respectively include plate springs which pressurize the circumferences of the discs having different diameters.